UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,824	08/10/2007	Terrence L. Blevins	06005/41114	3681

45372 7590 06/09/2009

MARSHALL, GERSTEIN & BORUN LLP (FISHER)
233 SOUTH WACKER DRIVE
6300 SEARS TOWER
CHICAGO, IL 60606

EXAMINER	
DISTEFANO, GREGORY A	

ART UNIT	PAPER NUMBER
2175	

MAIL DATE	DELIVERY MODE
06/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,824	BLEVINS ET AL.	
	Examiner	Art Unit	
	GREGORY A. DISTEFANO	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/29/2007, 10/6/2008, 2/21/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed on 4/6/2006.

2. Claims 1-21 have been submitted for examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 9-12, 14, 18, 20, and 21 rejected under 35 U.S.C. 102(b) as being anticipated by Blevins et al. (US 6,445,963), hereinafter Blevins.

5. As per claim 1, Blevins teaches the following:

generating information for a plurality of content layers of a process graphic display of process plant elements of the process plant, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B;

determining a content layer of the plurality of content layers to display via the user interface, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B; and

displaying via the user interface the determined content layer of the plurality of content layers, (column 17, line 64—column 18, line 5), i.e. an engineer's view on the display 14A includes a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 created to enable an engineer to access information pertaining to these loops and to manipulate these loops. Similarly, an operator's view having a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 is provided on the display 4B to enable an operator to access information pertaining to these loops and to manipulate these loops.

6. Regarding claims 2, Blevins teaches the method of claim 1 as described above. Blevins further teaches the following:

the generating step comprising processing runtime data received from the process plant in connection with the process plant elements, (column 17, lines 50-54), i.e. referring to Fig. 7, for example, portions of the process control system 10 of Fig. 1 are illustrated, including the controller 11 coupled via a communication link to the user displays 14A and 14B and to the devices 15-22.

7. Regarding claims 4, Blevins teaches the method of claim 1 as described above. Blevins further teaches the following:

the generating step comprises processing simulation data in connection with simulated operation of the process plant elements, (column 18, lines 49-54), i.e. in addition to downloading the MPC control logic to the MPC block within an MPC control

module, at a step 135 of Fig. 2, the MPC logic or an MPC block having the developed logic therein may be sent to a workstation to use in one or more simulation environments to, for example, train users how to use an MPC control block, To test the MPC block, etc.

8. Regarding claims 9, Blevins teaches the method of claim 1 as described above. Blevins further teaches the following:

the generating step comprises implementing object methods defined in a plurality of objects respectively modeling the process plant elements depicted in the process graphic display, (column 7, lines 25-31), i.e. the controller 11 implements a control strategy using what are commonly referred to as function blocks, wherein each function block is a part (e.g., a subroutine) of an overall control routine and operates in conjunction with other function blocks to implement process control loops within the process control system. (further see figures 4A - 5)

9. Regarding claims 10, Blevins teaches the method of claim 9 as described above. Blevins further teaches the following:

each object of the plurality of objects further defines a graphical depiction of the process plant element for each content layer of the plurality of content layers, (column 18, lines 20-29), i.e. the MPC blocks and modules created using these blocks can provide the same kinds of graphical or reporting support as other blocks, routines or elements within the process control system 10 because the MPC block has been

created on-line using the same programming strategy as the other control blocks. This feature eliminates the necessity to provide special programming simply to enable an operator, technician, engineer, etc. to view what is happening within the MPC control module or block.

10. As per claim 11, Blevins teaches the following:

a computer-readable medium, (column 6, lines 14-16), i.e. the data historian 12 may be any desired type of data collection unit having any desired type of memory and any desired or known software;

a display device (Fig. 1, #14);

an object comprising information stored in the computer-readable medium regarding operation of the process plant element, (column 6, lines 14-16), i.e. the data historian 12 may be any desired type of data collection unit having any desired type of memory and any desired or known software; and,

an execution engine to utilize the object information in a runtime environment to generate content for a plurality of content layers of a process graphic display, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B;

wherein the display device depicts a specified content layer of the plurality of content layers, (column 17, line 64—column 18, line 5), i.e. an engineer's view on the display 14A includes a graphical depiction of the operation of the loop 132 as well as a

graphical depiction of the loop 134 created to enable an engineer to access information pertaining to these loops and to manipulate these loops. Similarly, an operator's view having a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 is provided on the display 4B to enable an operator to access information pertaining to these loops and to manipulate these loops.

11. Regarding claims 12, Blevins teaches the method of claim 11 as described above. Blevins further teaches the following:

the object information relates to receiving runtime from the process plant in connection with on-line operation of the process plant element, (column 17, lines 50-54), i.e. referring to Fig. 7, for example, portions of the process control system 10 of Fig. 1 are illustrated, including the controller 11 coupled via a communication link to the user displays 14A and 14B and to the devices 15-22.

12. Regarding claims 14, Blevins teaches the method of claim 11 as described above. Blevins further teaches the following:

the object information relates to generating simulation data in connection with simulated operation of the process plant element, (column 18, lines 49-54), i.e. in addition to downloading the MPC control logic to the MPC block within an MPC control module, at a step 135 of Fig. 2, the MPC logic or an MPC block having the developed logic therein may be sent to a workstation to use in one or more simulation

environments to, for example, train users how to use an MPC control block, To test the MPC block, etc.

13. As per claim 18, Blevins teaches the following:

generating content for a plurality of different types of users of the user interface by processing data regarding on-line and simulated operation of the process plant, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B, (column 18, lines 49-54), i.e. in addition to downloading the MPC control logic to the MPC block within an MPC control module, at a step 135 of Fig. 2, the MPC logic or an MPC block having the developed logic therein may be sent to a workstation to use in one or more simulation environments to, for example, train users how to use an MPC control block, To test the MPC block, etc; and,

rendering a selected portion of the content in a customized depiction of the process plant by determining the selected portion of the content in accordance with a current user type of the plurality of different user types, (column 17, line 64—column 18, line 5), i.e. an engineer's view on the display 14A includes a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 created to enable an engineer to access information pertaining to these loops and to manipulate these loops. Similarly, an operator's view having a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 is provided on the

display 4B to enable an operator to access information pertaining to these loops and to manipulate these loops.

14. As per claim 20, Blevins teaches the following:

creating a process graphic display of a plurality of graphic display elements representative of a plurality of process plant elements of the process plant, respectively, (column 20, lines 45-55), i.e. creating an MPC control block without the necessary control logic parameters and process model therefore and connecting this block within the process control system in a manner that is similar to the way in which other control blocks or elements are connected within the system, running the MPC control block to collect process data, producing a process model from the process data, creating logic parameters for the MPC block from the process model and loading the logic parameters and, if necessary, the process model into the MPC control block enables a user to create an MPC control block or module within a process control routine. (further see figures 4A - 5);

configuring the plurality of graphic display elements by defining parameters related to on-line operation of the corresponding process plant elements and by defining simulation parameters to support simulated operation of the corresponding process plant elements, (column 7, lines 25-31), i.e. the controller 11 implements a control strategy using what are commonly referred to as function blocks, wherein each function block is a part (e.g., a subroutine) of an overall control routine and operates in conjunction with other function blocks to implement process control loops within the

process control system 10, (column 18, lines 49-54), i.e. in addition to downloading the MPC control logic to the MPC block within an MPC control module, at a step 135 of Fig. 2, the MPC logic or an MPC block having the developed logic therein may be sent to a workstation to use in one or more simulation environments to, for example, train users how to use an MPC control block, To test the MPC block, etc; and,

establishing a plurality of content layers for selectively displaying information related to the on-line and simulated operation of the process plant elements via customized views of the process graphic display, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B.

15. Regarding claims 21, Blevins teaches the method of claim 20 as described above. Blevins further teaches the following:

the step of storing a plurality of objects for the plurality of graphic display elements, respectively, wherein each object includes the parameters related to on-line operation and the simulation parameters, (column 7, lines 25-31), i.e. the controller 11 implements a control strategy using what are commonly referred to as function blocks, wherein each function block is a part (e.g., a subroutine) of an overall control routine and operates in conjunction with other function blocks to implement process control loops within the process control system.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 3, 5, 8, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blevins as applied to claim 1, 2, 4, 11, 12, and 14, in view of Eryurek et al. (US 2004/0186927), hereinafter Eryurek.

18. Regarding claims 3 and 13, Blevins teaches the method of claims 2 and 12 as described above. Blevins further teaches the following:

the user profile characteristic comprises an indication for operator access, and wherein the displaying step comprises rendering an operator content layer of the plurality of content layers based on the runtime data, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's view and an engineer's view are graphically depicted on the display screens 14A and 14B.

However, Blevins does not explicitly teach a method where the user's role is stored in a user profile. Eryurek teaches the following:

the determining step comprises selecting the determined content layer based on a user profile characteristic, (pg. 3, paragraph [0013]), i.e. the user profile may also

include default parameters such that the report is based on default parameters, and/or information about the user's responsibilities with the process plant, such that the report is generated based on the user's responsibilities.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the views of Blevins with the user profiles of Eryurek. One of ordinary skill in the art would have been motivated to have made such modifications because both Blevins and Eryurek are analogous art in the field of monitoring process plants. Furthermore, Blevins show a desire for customizing displays based on user's responsibilities in their teaching of different views based upon that user's role.

19. Regarding claims 5 and 15, Blevins teaches the method of claim 4 and 14 as described above. Blevins further teaches the following:

the user profile characteristic comprises an indication for maintenance access, and wherein the displaying step comprises rendering a maintenance content layer of the plurality of content layers based on the simulation data, (column 17, line 64—column 18, line 5), i.e. an engineer's view on the display 14A includes a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 created to enable an engineer to access information pertaining to these loops and to manipulate these loops. Similarly, an operator's view having a graphical depiction of the operation of the loop 132 as well as a graphical depiction of the loop 134 is provided on the

display 4B to enable an operator to access information pertaining to these loops and to manipulate these loops.

However, Blevins does not explicitly teach a method where the user's role is stored in a user profile. Eryurek teaches the following:

the determining step comprises selecting the determined content layer based on a user profile characteristic, (pg. 3, paragraph [0013]), i.e. the user profile may also include default parameters such that the report is based on default parameters, and/or information about the user's responsibilities with the process plant, such that the report is generated based on the user's responsibilities.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the views of Blevins with the user profiles of Eryurek. One of ordinary skill in the art would have been motivated to have made such modifications because both Blevins and Eryurek are analogous art in the field of monitoring process plants. Furthermore, Blevins show a desire for customizing displays based on user's responsibilities in their teaching of different views based upon that user's role.

20. Regarding claims 8, Blevins teaches the method of claim 1 as described above. Blevins further teaches the following:

the determining step comprises selecting the content layer of the plurality of content layers in accordance with a user profile characteristic, (column 17, lines 61-63), i.e. different views of the operation of these two control modules, such as an operator's

view and an engineer's view are graphically depicted on the display screens 14A and 14B.

However, Blevins does not explicitly teach a method where the user's role is stored in a user profile. Eryurek teaches the following:

a user profile characteristic, (pg. 3, paragraph [0013]), i.e. the user profile may also include default parameters such that the report is based on default parameters, and/or information about the user's responsibilities with the process plant, such that the report is generated based on the user's responsibilities.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the views of Blevins with the user profiles of Eryurek. One of ordinary skill in the art would have been motivated to have made such modifications because both Blevins and Eryurek are analogous art in the field of monitoring process plants. Furthermore, Blevins shows a desire for customizing displays based on user's responsibilities in their teaching of different views based upon that user's role.

21. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blevins as applied to claim 1, 4, 11, and 14, in view of Hess et al. (US 6,826,521), hereinafter Hess.

22. Regarding claims 6 and 16, Blevins teaches the method of claims 4 and 14 as described above. However Blevins does not explicitly teach a method of simulating disturbances. Hess teaches the following:

introducing simulated disturbances into the simulated operation of the process plant elements, (column 14, lines 28-31), i.e. the Plant Environment 20 of Fig. 1 is replaced by a Stimulus Environment 60 which provides the simulated operator actions and process disturbances.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the process plant monitoring method of Blevins with the simulated disturbances of Hess. One of ordinary skill would have been motivated to have made such modifications because both Blevins and Hess are analogous art in the field of monitoring process plants. Furthermore, Blevins shows a desire for providing simulations for the purpose of training users (see column 18, lines 49-54). As was well known in the art, providing simulated errors was a well known method to train users on the use/maintenance of a system.

23. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blevins in view of Hess as applied to claims 1, 4, 6, 11, 14, and 16 above, and further in view of Eryurek, and further in view of Blevins et al. (US 2004/0153804), hereinafter '804.

24. Regarding claims 7 and 17, modified Blevins teaches the method of claims 6 and 16 as described above. However, Blevins does not explicitly teach a method where the user's role is stored in a user profile. Eryurek teaches the following:

selecting the determined content layer based on a user profile characteristic, (pg. 3, paragraph [0013]), i.e. the user profile may also include default parameters such that the report is based on default parameters, and/or information about the user's responsibilities with the process plant, such that the report is generated based on the user's responsibilities.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the views of Blevins with the user profiles of Eryurek. One of ordinary skill in the art would have been motivated to have made such modifications because both Blevins and Eryurek are analogous art in the field of monitoring process plants. Furthermore, Blevins shows a desire for customizing displays based on user's responsibilities in their teaching of different views based upon that user's role.

Furthermore, Blevins does not explicitly teach a method of one role being a training instructor. '804 teaches the following:

the user profile characteristic comprises an indication for training instructor access, and wherein the displaying step comprises rendering an instructor content layer of the plurality of content layers to support the introducing step, (pg. 14, paragraph [0093]), i.e. the training instructor may use the display to effect or change properties in the simulation performed by the process module 100a.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the user roles of Blevins with the training instructor of '804. One of ordinary skill in the art would have been motivated to have made such modifications because both Blevins and '804 are analogous art in the field of monitoring process plants. Furthermore Blevins shows a desire for providing simulations for the purpose of training users (see column 18, lines 49-54), thus showing the desire for training coordinators.

25. Claim19 rejected under 35 U.S.C. 103(a) as being unpatentable over Blevins as applied to claim 18 above.

26. Regarding claims 19, Blevins teaches the method of claim 18 as described above. However, Blevins does not explicitly teach a method of "*the rendering step comprises determining whether the process plant is on-line to further determine the selected portion of the content for the customized depiction*".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Blevins's method to determine whether the process plant is on-line. One of ordinary skill in the art would have been motivated to have made such modifications because as Blevins teaches in their abstract, their method is directed to monitoring the outputs of a process plant. As was well known in the art at the time, in order to monitor the outputs of a process plant, that process plant would need to be on-line, as an off-line plant produces no output. This is further shown

in Blevins teaching in column 6, lines 8-28, where they teach "the controller 11 is also connected to field devices 15-22 via input/output cards 26 and 28. The data historian 12 may be any desired type of data collection unit having any desired type of memory and any desired or known software, hardware or firmware for storing data and may be separate from or a part of one of the workstations 13". As results are received from a remote location, it would be clear to one of ordinary skill in the art to have first ensured that the remote location is on-line.

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY A. DISTEFANO whose telephone number is (571)270-1644. The examiner can normally be reached on Monday through Friday, 9 a.m. - 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on 571-272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GREGORY A DISTEFANO/
Examiner, Art Unit 2175

/William L. Bashore/
Supervisory Patent Examiner, Art Unit 2175